

In the Claims:

1-4. (Cancel)

5. (Original) A transverter control system comprising:
a diplexer connected to a wireless modem unit (WMU) and receiving a downstream signal and outputting an upstream signal;
a transmission path comprising:
a notch filter having an input connected to the upstream signal;
an upconverter connected to the notch filter; and
a transmitter switch connected to an output of the upconverter;
a control path comprising:
a band pass filter having an input connected to the upstream signal; and
a detector and demodulator unit connected to the band pass filter;
wherein the detector and demodulator unit outputs a control signal to control the upconverter and the transmitter switch based on a pre-preamble signal received from the wireless modem unit.

6. (Original) A transverter control system for a wireless modem, the system comprising:
a wireless modem unit (WMU) comprising:
a processor;
a modulator controlled by the processor;
a pre-preamble modulator controlled by the processor;
a summation circuit connected to receive an output from the modulator and an output from the pre-preamble modulator; and
an output stage connected to an output of the summation circuit;
wherein a pre-preamble signal generated by the pre-preamble modulator alerts the output stage of an impending data burst; and
a transverter control system comprising:

a diplexer connected to a wireless modem unit (WMU) and receiving a downstream signal and outputting an upstream signal;
a transmission path comprising:
a notch filter having an input connected to the upstream signal;
an upconverter connected to the notch filter; and
a transmitter switch connected to an output of the upconverter;
a control path comprising:
a band pass filter having an input connected to the upstream signal; and
a detector and demodulator unit connected to the band pass filter;
wherein the detector and demodulator unit outputs a control signal to control the upconverter and the transmitter switch based on a pre-preamble signal received from the wireless modem unit.

7. (Original) A method of control of a transverter in a wireless access system, the method comprising:
creating a pre-preamble signal and a control data signal in a wireless modem unit (WMU);
transmitting the pre-preamble signal as a notification signal;
transmitting the control data signal to the transverter;
detecting the pre-preamble signal at the transverter, and in response to the detected signal, disabling a transmitter switch;
decoding and processing the control data signal; and
resetting the transmitter switch.

8. (Withdrawn) A method of transverter control, the method comprising:
programming a modem to a low frequency;
transmitting control data at the low frequency;
re-programming the modem to an appropriate frequency to transmit actual data;
modifying transverter parameters in response to the control data; and

transmitting the actual data via the transverter.

9. (Withdrawn) A transverter pre-preamble signal detection circuit, the circuit comprising:

- a tap connected to an upstream signal path;

- an amplifier connected to a tap output;

- a detector connected to an amplifier output;

- a comparator having a first input and a second input, the first input connected to a detector output, and the second input connected to a reference voltage; and

- a one-shot circuit connected to an output of the comparator, the one-shot controlling a power amplifier.

10. (Withdrawn) A transverter pre-preamble signal detection circuit having an automatic reference level determination, the circuit comprising:

- a tap connected to an upstream signal path;

- an amplifier connected to a tap output;

- a detector connected to an amplifier output;

- a first filter having a fast response time connected to a detector output;

- a second filter having a slow response time connected to the detector output;

- a first comparator having a first input connected to the first filter and a second input connected to the second filter; and

- a one-shot circuit connected to an output of the first comparator, the one-shot circuit comprising:

 - a diode;

 - a low pass filter connected to the diode;

 - a reference voltage source; and

 - a second comparator having a first input connected to the reference voltage source, and a second input connected to the low pass filter.

11. (Withdrawn) A transverter pre-preamble signal detection circuit, the circuit comprising:

- a tap connected to an upstream signal path;
- a band pass filter connected to the tap;
- an amplifier connected to a band pass filter output;
- a detector connected to an amplifier output; and
- a comparator having a first input and a second input, the first input connected to a detector output, and the second input connected to a reference voltage;

wherein the detector circuits detects control commands sent from a modem which are outside of a passband of the IF to RF conversions of the modem

12. (New) The transverter control system according to Claim 5, wherein: the wireless modem unit (WMU) comprises,

- a processor;
- a modulator controlled by the processor,
- a pre-preamble modulator controlled by the processor,
- a summation circuit connected to receive an output from the modulator and an output from the pre-preamble modulator, and
- an output stage connected to an output of the summation circuit;

wherein a pre-preamble signal generated by the pre-preamble modulator alerts the output stage of an impending data burst.

13. (New) The transverter control system according to Claim 5, wherein the WMU comprises a pre-preamble modulator configured to produce a carrier at a frequency outside of a normal data band.

14. (New) The transverter control system according to Claim 13, wherein the carrier is Amplitude Shift Key modulated.

15. (New) The transverter control system according to Claim 14, wherein the diplexer is connected at an output stage of the, wireless modem unit (WMU).

16. (New) The transverter control system according to Claim 15, wherein the Wireless Modem Unit (WMU) is part of a wireless broadband access system.

17. (New) The transverter control system according to Claim 5, wherein the Wireless Modem Unit (WMU) is part of a wireless broadband access system.

18. (New) The transverter control system according to Claim 6, wherein the Wireless Modem Unit (WMU) is part of a wireless broadband access system.

19. (New) The transverter control system according to Claim 7, wherein the Wireless Modem Unit (WMU) is part of a wireless broadband access system.

20. (New) The transverter control system according to Claim 15, wherein the impending data burst is a Data Over Cable Service Interface Specification (DOCSIS) formatted message in a broadband wireless access system.

21. (New) The transverter control system according to Claim 5, wherein the upstream and downstream signals facilitate a Data Over Cable Service Interface Specification (DOCSIS) formatted message in a broadband wireless access system.

22. (New) The transverter control system according to Claim 6, wherein the impending data burst is a Data Over Cable Service Interface Specification (DOCSIS) formatted message in a broadband wireless access system.

23. (New) The transverter control system according to Claim 7, wherein the preamble and control signals facilitate a Data Over Cable Service Interface Specification (DOCSIS) formatted message in a broadband wireless access system.